BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington D.C. 20554

In the Matter of	)	
Rural Health Care Support Mechanism	)	WC Docket No. 02-60

Comments of the California Telehealth Network

and the University of California Davis Health System

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Introduction and General Comments

The Respondent

The University of California has been chosen by the Office of Governor Arnold Schwarzenegger to serve as the managing partner of a broad consortium of state government agencies, nonprofit health care organizations and provider networks that comprise the California Telehealth Network (CTN). In 2007, the University of California Davis Health System (UCDHS) was selected as the lead organization to manage the implementation of the CTN.[1] CTN was formed to support California's single statewide application to the FCC's innovative Rural Health Care Pilot Program (RHCPP) on May 7, 2007. CTN was the second highest award granted by the FCC with a $22.1 million award. The CTN has launched its operations in

[1] Control of the CTN will be moving from the UCDHS to a non-profit organization, the California Telehealth Network, in the next few months as contemplated from the outset of the project.

August 2010, with the ultimate goal of 2,000 health care sites to be connected by a secure, HIPPA compliant broadband network. The following comments are submitted on behalf of the CTN consortium[2] and the UCDHS and will be collectively referenced hereinafter as "CTN." Comments are based upon input from our consortium members, as well as upon experience gained during implementation of the CTN project, under guidance by the Universal Service Administrative Company (USAC).

The CTN commends the Federal Communication Commission (FCC) for its forward-thinking efforts to amend its rural health care support mechanism program (RHP) and its rural health care pilot program (RHCPP) to better serve the needs of health care providers, especially those practicing in rural, remote, tribal and medically underserved areas. UCDHS has conducted an extensive telemedicine program for over fifteen years in California and believes its expertise may be helpful to the FCC's current efforts to improve its program. During that time, UCDHS has assisted a number of telehealth providers in obtaining funding under the standard Rural Health Support Mechanism Program and are well-versed in the intricacies of that complex process. During early 2006, UCDHS provided informal input on deficiencies in the RHP and submitted recommendations for improvements. We were pleased that the RHCPP, announced in late 2006, contained a number of the key enhancements that we deemed essential to providing broader access to Universal Service funding for health care. Throughout our three-plus year involvement in the RHCPP, we have been further encouraged by the earnest efforts of FCC and USAC to facilitate our program, and despite burdensome administrative processes, to guide and assist us in implementation. The RHCPP, although not perfect, represents a substantial improvement over the RHP. We note specific noteworthy improvements in the RHCPP:

1. More flexible eligibility requirements, urban vs. rural.

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[2] The members of the CTN consortium may be found at http://www.caltelehealth.org/about/partners.html

2. Configured to permit highly capable consortia to apply and operate on behalf of a large number of providers.
3. 85% subsidy for both non-recurring and recurring eligible expenses.
4. Broad flexibility in support for diverse network architectures (e.g., vendor-managed leased services, infrastructure build-out, coalition of Internet Service Providers (ISP's), etc.).
5. Sincere, albeit not altogether successful, efforts to streamline administrative processes.

With the release of the NPRM, we were pleased to see that certain of the enhancements comprising the RHCPP have been retained in the proposed new regulations. Others, however, have not. In some cases, we are not persuaded that certain of the new programmatic proposals will represent an improvement over existing RHP and/or RHCPP regulations. We point out these instances hereinafter. We emphasize, however, how much CTN welcomes a thorough reexamination at the rural health care program, given significant technological changes, rapid advances in applications requiring higher bandwidth needs, and the need to have more administratively streamlined processes. CTN agrees that broadband plays a very important role in improving the quality and costs of health care and erasing the problems of distance and time for many of our medically underserved residents. Lives have already been saved in California using live video feeds and other Telehealth applications enabled by broadband.

Executive Summary

The CTN generally supports the proposal to allocate Universal Services health care program funding between two separate new programs: Health Infrastructure and Health Broadband Service Programs. These programs in aggregate would represent a reasonable and appropriate extension of the current Rural Health Care Pilot Program that has substantially

benefitted California's efforts to improve health care access in medically unserved and underserved areas.

CTN is highly supportive of FCC's stated intentions to learn from the collective experiences garnered during the Rural Health Care Pilot Program, and to incorporate the beneficial features into the new programs on a permanent basis. Although we are highly encouraged by the significant improvements that the new programs represent, we conclude that even greater flexibility in certain key program areas would be both positive and achievable within the current regulatory framework.

One of those conclusions must certainly be that the relaxation of certain administrative processes and requirements intrinsic to the RHP has greatly facilitated progress. We note that although some of those benefits have been propagated into the new programs, we believe that additional flexibility is needed in key areas:

1. Eligibility criteria for program participants, including
    a. Rural versus urban participant eligibility
    b. Non-profit and Public entities, versus for-profit entities;
2. Making services and capital acquisitions more broadly eligible for subsidy;
3. Inclusion of in-premises network infrastructure upgrades as an eligible expense;
4. Demonstration and documentation requirements regarding current unavailability of broadband services;
5. Service provider eligibility requirements, particularly for the Health Broadband Services Program.

CTN has concerns about the proposed approach of a minimum bandwidth connectivity speed of 4 megabits per second (Mbps). The technical realities in many highly rural unserved and underserved areas are such that attainment of arbitrarily stringent minimum connectivity speeds may be a practical impossibility and have the inadvertent result being a barrier to

participation in the program for a small health care provider. CTN argues for the establishment of more flexible benchmark bandwidth speeds[3], as opposed to arbitrary minimums, taking into consideration uniquely local/regional circumstances and establishing performance thresholds on an individual basis. CTN further believes a tiered approach for benchmark bandwidth speeds depending on the health care provider's size and type (e.g. single health care provider, health care clinic, hospital) may be more appropriate.

With the advent of Health Information Exchanges (HIE), there is a need for health care networks to embrace a diverse collection of health care professionals, a number of which are currently not eligible under the proposed program eligibility requirements. We strongly encourage the FCC to expand participant eligibility requirements consistent with regulatory restrictions, to include the broadest possible spectrum of health care professionals that serve an essential and integral function in today's HIE's.

CTN also seeks clarification of FCC's intentions regarding how current RHCPP's can transition into the proposed new programs in the Notice. We seek further clarity in the FCC's final rules to ensure smooth transition of CTN to the new permanent programs.

Finally, we have included suggestions on the administrative systems that have been established by USAC and that currently support the RHCPP. CTN is very grateful to USAC for its earnest efforts to facilitate our program, but believes that substantial improvements in the administrative processes currently employed would markedly improve efficiency as well as mitigate some of the current arbitrary constraints that are unrelated to regulatory restrictions. Specific recommendations for improvement are provided.

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[3] By "benchmark bandwidth speeds," we mean the FCC should set a speed which is what is expected in most cases, but which is not a hard and fast minimum, given local circumstances. For example, the benchmark bandwidth speed could be set at 4Mbps, but rural locations who cannot obtain those speeds from available providers could opt for lower speeds after explaining its dilemma and be allowed to participate in the program at lower speeds.

Current Funding Level

CTN supports efforts by the FCC to ensure the Rural Health Care Support Mechanism (RHCSM) is fully utilized closer to the $400 million annual fund cap. The very low funding per year to date means opportunities lost for more aggressive telehealth efforts in our nation. CTN supports the creation of the Health Infrastructure Program (HIP), as generally described in Paragraph 13 of the NPRM, and agree that connections to non profit nationwide backbone providers such as Internet2 (I2) or National Lambda Rail (NLR) are appropriate. We would not limit backbone provider to only those two providers however, as other backbone providers do exist in the states that can provide connection to I2 and NLR.[4]

Health Infrastructure Program

Missing from the NPRM is an explicit discussion of whether an urban non-profit and public health care centers are eligible to participate in the infrastructure program as part of a dedicated health care network. A clarification is necessary because it is obvious that CTN requires as crucial players in our network urban hospitals to support the rural health care providers in the network with specialty care, health information, etc. We suggest that the RHCPP "de minimis" standard for rural participation be adopted for the infrastructure program.

Paragraph 15 of the Notice states that in the application phase, applicants must verify there is either no available broadband infrastructure or the existing available infrastructure is insufficient for health IT needed to improve and provide health care delivery. We seek clarification that the applicant may rely on broadband maps which were funded by the Broadband Data Information Act (BDIA) program of the Department of Commerce's NTIA, and need not independently verify this assertion. In California, the BDIA mapping represents the most accurate broadband maps in the state and should be relied upon. We note that referral

[4] This comment also applies to Paragraph 32, where the budget is discussed (see item 5). The reference to the I2 and NLR fees should be stated more generically to allow backbone providers other than I2 and NLR.

patterns of rural health care providers does not always match the availability of telecommunications services, and so using this as a hard and fast guideline may be too demanding. Further, above we noted the necessity of having urban hospitals as a key part of the dedicated telehealth network in order to help service the rural health care providers. These urban providers almost always have broadband of sufficient speeds available to them and so there should not be requirements of inability to obtain broadband for urban hospitals that support the rural providers as part of the telehealth network. This distinction should be made clear in the new rules.

In Paragraph 16, we recommend that prioritization could be done with unserved broadband areas first, then underserved areas next. We also believe that geographic fairness should be considered so that a handful of very rural states do not obtain all the funding in the early years, but that the funding is spread between more states. States who have moved forward more aggressively in this area should not be penalized for early adoption.

In Paragraph 18, we believe the build out period of three years is acceptable in general. We do note that in some instances, large project may have part of the project held up by difficult permitting issues by slow moving federal or state agencies, environmental approval processes[5] or lawsuits. In this instance, we believe exceptions may be granted where the project is substantially completed given unforeseen circumstances preventing timely completion.

In Paragraph 19 of the Notice, demonstrated need for infrastructure funding, eligibility is restricted to areas where broadband is unavailable or insufficient. This restriction may well disqualify many rural providers who practice in areas where broadband service is both available and sufficient for health care activities, but is so expensive as compared to urban rates that as a practical matter, it is functionally unavailable to these rural providers. Many of the applicants to

[5] In California, it is not unusual for a project where there are environmental impacts to take approximately 18 months to two years to obtain environmental approval.

the CTN project noted that equivalent broadband service is indeed available in their area – for very high rates ranging from $2,000 to over $6,000 per month. We recommend that the definition of "unavailable" be modified to include "functional availability."

In Paragraph 20 as to connectivity speed, the CTN supports a "benchmark" (but NOT a minimum) threshold for broadband connectivity speeds for health IT. CTN believes a survey/study should be performed of bandwidth needs of existing telehealth providers and looking at the near term bandwidth needs of health care applications on the market or about to enter the market. Only then can the FCC have adequate data to understand the connectivity speeds that are reasonable and foreseeable for telehealth, e-health and other likely applications and uses in the time frame for the project's life. Further, CTN believes that a small health care provider has very different needs than a larger clinic or hospital, and so a tiered set of speeds for differing types of health care providers may be sensible. A minimum set too high for a small health care provider may use up a project's funds too fast, or act as a barrier for the small provider to participate in the program. A minimum speed set too low for a large hospital may be inadequate for its collective needs.[6] We recognize however, that particularly with the advent of HIE initiatives, increased bandwidth will be required by all providers and we encourage FCC to institute a permanent bandwidth needs monitoring program, so that benchmarks and minimums can be timely adjusted, consistent with the changing needs.

CTN believes 5-10 Mbps is adequate for a single provider in the short term, but believes that 50-1000 Mbps is more reasonable should the provider be a larger health clinic or hospital. Further, this benchmark speed should not be carved in stone in the rules but should be something reconsidered by the FCC every 2-3 years to ensure the FCC's rules keep up with technological

[6] To put some perspective on California's aspirations, our California Broadband Task Force in January 2008 aspired to 50 Mbps throughout the State by 2015, and 100 Mbps by 2020. We note that the FCC's National Broadband Plan has similarly ambitious goals, although we believe that while 4 Mbps may be adequate for residential rural users, it is certainly not adequate for even single health care providers.

advances. CTN can forecast a time in the not so distant future that a gigabyte may become the new telehealth minimum connectivity speed.

Further, CTN believes a very unique opportunity exists with the broadband American Recovery and Reinvestment Act (ARRA) funding that will bring broadband to rural areas. It is very important that the FCC ensure that ARRA broadband infrastructure can benefit the health care projects funded under the FCC HIP, and that HIP projects can likewise benefit community anchor institutes and residents within the rural service footprint. Bear in mind that an HIP project may occur in a rural area and no other broadband upgrade project. *It is important that community anchor institutions in that rural area have reasonably priced access to that network.*

In Paragraphs 21 through 24 regarding demonstrated needs criteria that existing broadband infrastructure is insufficient, CTN believe that the proposed processes for documentation of insufficient availability are overly burdensome and beyond the means of most, if not all provider networks or regional consortia with which we are familiar. We believe the most sensible criteria is the one provided in Paragraph 22, second bullet, which allows reliance on the broadband mapping studies. Some broadband mapping studies may not be detailed enough in some areas however to properly reflect the unserved or underserved area, or that the only available broadband is at exorbitant cost. We find the other two methods suggested in Paragraph 22 (survey and six month request period) to be overly burdensome, costly, and certain to be a barrier for the neediest health care providers who are already cash strapped. We find the financial analysis suggestion in Paragraph 23 equally burdensome and costly. We urge the methods adopted to be those that are simple and low cost.

In Paragraphs 27 and 28, CTN supports the consortium policies suggested by the Notice. The CTN is a consortium originally applied for by the University of California as the fiscal agent for the consortium, but to be ultimately run by a stand alone non profit organization, with board members consisting of three general sets of stakeholders: state agencies, funders and providers.

We urge USAC to reexamine its rules to take into consideration the existence of consortia in its processes.

In Paragraph 29, we believe funding requests not to exceed 85% of the project is reasonable. We note however how difficult it is to raise the 15% of match money in these challenging and difficult economic times with state and local budgets being slashed even for essential services. The CTN was fortunate in that it was able to provide its RHCPP 15% match from the California Emerging Technology Fund, a non profit organization, set up by the California PUC to bridge the state's Digital Divide[7]. Other applicants were not so fortunate. We understand on the one hand that the FCC wants applicants to have "skin in the game" to ensure success of a project. However we also question whether this requirement will discourage some of the neediest applicants. We suggest that there be an exception request that might be proffered in special circumstance for funding up to 95%, particularly if the FCC receives some funding requests that might be lower than 85% of the project.[8]

As to Paragraph 30, regarding the funding cap, CTN believes that the proposed cap of $15 million would significantly limit the scope and scale of otherwise eligible projects. It is CTN's experience that the principal need in most rural areas is the upgrading of last mile broadband infrastructure; principally the physical infrastructure that serves individual premises. Although middle mile infrastructure and electronics could be obtained within the proposed funding cap that would be sufficient to serve many end points, upgrading last mile infrastructure is complex and expensive. A cap may not be technology neutral in that it might weight project towards less costly wireless solutions. The FCC should consider however, that there are certain

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[7] More about the CETF may be obtained at http://www.cetfund.org.

[8] We observe that in its California Advanced Services Fund, a state broadband infrastructure fund, the California PUC made a similar exception for the Digital 395 project, upping its usual state match from 10% to 19% due to the nonprofit nature of the collaborative of local governments for this project in a highly unserved and underserved Eastern Sierra area of our state.

quality of service (QOS) limitations (e.g. latency) inherent with current wireless technologies that can affect critical real-time health care communications, especially if such infrastructure is also used to support commodity Internet access by non health care providers. Further, some projects may face very difficult geographical or terrain challenges, which greatly increase project costs. Further the costs faced by large project (such as our statewide project in California), may be very different than the costs of small states or small projects. CTN strongly objects to an arbitrary cap, and instead suggests that the FCC should consider a tiering of project funding caps, possibly raising the cap for projects that seek to upgrade physical last mile infrastructure, that cover large geographic areas, or have special circumstances such as difficult terrain.

As to Paragraph 31, the proposal to have a cap on number of projects, CTN objects to an arbitrary cap. If the FCC caps the infrastructure program at $100 million a year as proposed in the NPRM and there is a $15 million cap on each project, then it is possible only six projects could be funded per year. CTN believes this is the wrong time to "slow roll" the birth of telehealth networks. On the contrary, CTN believes this is the time to be aggressive about telehealth projects in order to be consistent with health care and broadband reforms being undertaken nationwide. CTN agrees with the FCC that starting a telehealth network is a complex process and that the USAC coaching is necessary and very useful for less sophisticated applicants. However, CTN points out that the RHCPP program is administratively complex and in part, this also contributes to some of the difficulties and slowness[9]. Should the program's administration be streamlined while fiscal safeguards observed, this will assist in the process of faster birthing of a robust telehealth network.

In Paragraph 34, CTN supports the proposal to provide benchmark cost estimates for certain items common to all infrastructure projects. CTN is neutral on whether to publish applicant budgets but believes participant budget publication is acceptable.

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[9] CTN comments on this point further at the end of these comments.

As to Paragraphs 35 and 36, CTN supports those proposals for non recurring costs and network design. As to Paragraphs 37 and 38, CTN strongly supports the addition to eligible costs of reasonable administration expenses. CTN has had difficulty raising funding for administrative expenses in the RHCPP, and this serious funding issue has caused our project to go more slowly, relying on part time assistance from our fiscal agent the University of California and the volunteer time of some of our advisory board members. As a statewide project, CTN requires more extensive administrative support than a small project. Consequently, CTN selected architecture and service model that relied heavily upon existing providers, who could amortize administrative and technical support costs into their standard pricing models and legitimately receive subsidies from FCC, part of which cover such costs. An arbitrary limit of administrative costs to $100,000 a year is not feasible for a large statewide project for California consisting of up to 2,000 sites. The FCC should not adopt a "one size fits all" solution and instead, CTN recommends allocating a certain percentage (e.g. 15%) for administrative expenses, rather than a flat amount. This would provide equal advantage to small and large projects.

As to Paragraph 39, we support the proposal on 85% of maintenance costs to be provided and suggest that the subsidy be continued for at least five years to allow the project to reach sustainability. CTN suggests there may be some projects that may have difficulty in reaching sustainability but which serve very important health goals for its residents. CTN could support a rule that allowed maintenance costs to be extended beyond five years for a very small number projects facing exceptional funding issues but which deliver quantifiable quality health care results for its users.

As to Paragraphs 40 and 41, CTN supports 85% funding for I2 and NLR connection but notes it should be phrased in a generic manner as to connection to dedicated nationwide backbones. In California our project may connect to CENIC, a private carrier serving the education community, who in turns connects to I2 and NLR. We agree the benefits are great in

terms of connectivity to medical expertise. We agree that this piece should not be subject to competitive bidding as it was treated in the RHCPP.

As to Paragraph 42 regarding ineligible costs, CTN believes this list is overbroad and that as a result, projects such as CTN struggle to pay for these important and in fact necessary costs. In particular, to exclude continuous power source makes no sense, as there can be no access absent power in a power outage. In fact health care needs may become more acute due to the power emergency and so reliable power sources in outages should be covered as essential to operation. Further, excluding inside wire and networking equipment is overly restrictive, as are software and Web server hosting. The network must be funded to function as a whole to serve its primary goal of reliable connections for high quality health care. CTN believes the FCC has it within its discretion to read the Telecom Act of 1996 provision more broadly to include some of these costs, and believes this is the time to make this leap to a more holistic approach.

As to Paragraph 44 regarding the 15% matching contribution, CTN supports the proposal, recognizing that placing a portion of the financial responsibility upon participants will tend to minimize inadequately designed and supported projects. We think the 85% level is appropriate given the high costs and challenges of last mile broadband infrastructure for rural areas, not to mention the lack of middle mile to many of these areas. Coming up with the 15% match is already challenging for applicants, particularly in the light of the many ineligible costs of the network under the program. For infrastructure projects where large initial purchases are required, FCC should consider the current RHCPP experience when establishing how the 15% match contributions should be amortized. Requiring "up-front" payment of the entire 15% may not be practical for many projects, particularly where the match is comprised of individual contributions from participating rural providers. It would be more equitable to financially-challenged rural constituents to provide for amortization of payments over some reasonable time period.

As to Paragraph 45, we do not object to the requirement that the participant submit letters of assurance regarding funding within 90 days. We agree that funding should not be tied up for applicants who do not have a firm matching source of funds. As to Paragraph 47, CTN does not object to the eligible sources proposed.

As to Paragraph 50, CTN strongly supports the concept of being technology neutral. Given advances in technology and the challenges of serving rural and remote areas with broadband of the speeds necessary for health care applications, CTN agrees that this policy is very wise and comports with the competitive neutrality provisions of Section 254(h)(2) of the Act and our own state communications policies.

At Paragraph 52, CTN strongly agrees that, in addition to meeting mandated service speeds, funded health care networks should be designed to exchange identifiable health information. Given the ARRA initiatives in the Health Information Exchange area, the FCC should consider requiring funded networks include any HIE initiatives in their regions.

Further as to Paragraph 53, CTN agrees that funded networks should strive to offer its providers health IT practices, such as electronic health records, billing and scheduling systems, e-care, telehealth and telemedicine applications. UCDHS has deep experience in health IT practices and knows that tremendous benefits may result. CTN urges the FCC to establish a website where funded projects may share best practices on health IT, including with foreign telehealth projects.

As to Paragraph 54 on emergency response connectivity, the CTN supports a requirement that it enunciate how it may be used in an emergency response situation. CTN believes that this is the natural use of any health care network, to assist in emergencies and disasters, whether in its region or a neighboring one. We ask that the FCC be more specific as to what it expects with this requirement. As suggestions, funded projects could be required to consult annually or biannually with public safety and first responders, and to prepare plans of how the project's

network may be utilized in a regional wide emergency. The FCC could urge projects to participate in table top exercises that may occur in their regions to prepare for disasters and emergencies. CTN urges that satellite connections for redundancy of a telehealth network for disaster and emergencies be funded.

As to Paragraphs 55 through 58 regarding facilities ownership, IRU or capital lease requirements, CTN argues that the exclusion of short term operating leases effectively and unilaterally excludes programs from using the existing telecommunications services that in many circumstances are far more cost-effective than IRU/ownership. The realities in rural and underserved areas are such that existing infrastructure is frequently in place, but underutilized for a variety of reasons such as cost. This older infrastructure has been installed many years previous, at a time when the absence of environmental impact studies, high labor costs, etc., made such projects financially practical. In many cases, the infrastructure is fully amortized, but has not been upgraded because the service providers do not project a sufficient demand at a price point that they deem profitable. It seems counterintuitive to assume that even substantially subsidized infrastructure projects (with intrinsically higher cost), can ultimately achieve sustainability in the same environment, recognizing that telecommunications vendors typically amortize costs over a twenty-plus year period, while FCC is proposing a five-year support subsidy. FCC should consider permitting short term operating leases when programs can adequately demonstrate that it is the low-cost alternative. Such a policy would also take proper note of the fact that a successful program would engender aggregation of demand, resulting in more financially viable IRU-based or full ownership-based projects in future.

Regarding Paragraphs 67 through 75 regarding shared use, the shared use issue is an important one for CTN. As CTN builds out an ambitious statewide network in a geographically large state with mountains, deserts and rivers, CTN has developed a sustainability plan to ensure the financial health of its system after its RHCPP funding ends. It is important to CTN's

business and sustainability plan that any excess capacity that CTN has available may be resold to non eligible entities. Likely non eligible entities may include for-profit health care entities, pharmacies, and solo practitioners in the health related field. It is desirable and practical to include such health related entities in the system particularly as CTN plans to pass Health Information Exchange and Electronic Medical Records across our system. This goal is consistent with the HIE goals enunciated in the recent ARRA HIE provisions. The FCC should adopt policies consistent with other agencies' HIE goals, and should develop a partnership with the Department of Health and Human Services similar to its recent partnership with the FDA.

Regarding Paragraph 75, the allocation method for shared use should be set out clearly by the FCC and in a manner that implementation is simple and does not incur high costs on the grantee to determine. We would object to complicated, time consuming and expensive methods requiring the applicant to hire outside experts.

Regarding Paragraph 78 regarding additional capacity for community use, CTN believes it is critically important and consistent with the approach taken by NTIA in Round 2 of its BTOP program, to encourage that extra capacity be allowed to be purchased at reasonable cost in rural areas by community anchor institutes which may in the FCC's wisdom include schools, libraries, governmental entities (state or local), public safety, non profit community-based organizations, civic organizations, groups serving low income persons, and small business associations. The California Broadband Task Force in its Final Report made it clear that a telehealth network was one strategy to reach broadband facilities into rural communities, and that such a network should serve other community anchor institutions once there. In some of these very rural and remote communities, this infrastructure may be the *only* broadband infrastructure that will ever reach that community. Strict restrictions by the FCC on usage of the excess capacity in such rural areas of this health care infrastructure is counterproductive to the FCC's and our State's goals of universal broadband, would not serve the public interest, and should not be considered waste,

fraud or abuse of these funds. Further it is inconsistent with the goals of the Broadband ARRA BTOP program for Comprehensive Community Infrastructure in Round 2, to connect health care providers, schools, libraries and public safety to broadband networks.

Regarding Paragraph 79, CTN supports some priority being given to projects that also benefit schools, libraries and public safety. CTN acknowledges the key importance of getting broadband to these key community players, and would support some preferences. CTN does not see any reason to require physical separation from the dedicated capacity for the health care network to such non-health care provider entities unless inclusion of the latter compromises the security of the dedicated health care network.

Regarding Paragraph 87, we support delegation to the Bureau the authority to waive some sections of the Subpart G of Part 54 of the Commission's rules in order to achieve the sound administration of the health infrastructure program. Some flexibility is important in this new program. CTN has experienced some unnecessary delays as USAC personnel "went up the chain" including at USAC and over to the FCC, to make some decisions relating to our RHCPP.

Regarding Paragraph 88, we support the ability of the Bureau to designate a successor project should a participant not be able to complete a project. CTN has always anticipated that its fiscal agent, the University of California, would hand the CTN project over to a non profit organization consisting of all its stakeholders and funders to continue to operate. In our case, this transfer was contemplated from project inception and is supported by the University of California, the Governor's Office, the state agencies, and the stakeholders.

Health Broadband Service Program

Regarding Paragraph 93 regarding eligible services and recurring costs, CTN supports the proposal to replace the Internet access program with a new health broadband services program which will subsidize at least 50% of the eligible rural health care provider's recurring monthly costs for advanced telecommunications and information services that provide point-to-point

broadband connectivity including Dedicated Internet Access. CTN would not limit the participation in such program to only rural health care providers, but would expand it to include health care providers who are in a telehealth network with eligible rural health care providers.

CTN agrees that that Section 254(h)(2)(A) of the Telecommunications Act of 1996 (Act) should not be read to be limited to health care providers in rural areas. The clear language of that section refers only to "health care providers" without any rural limitation. Thus, we think the FCC has latitude to act in the way it believes best for all health care providers in programs authorized under 254(h)(2)(A). In its program, the FCC may wish to put a priority on rural health care providers, but CTN believes that any non rural health care provider who is in a telehealth network with rural health care providers should benefit from the health broadband services program. Further, similar to Section 254(h)(1)(A), CTN urges that the FCC should consider whether getting rid of the rural-urban cost disparity for rural health care providers for broadband service under this program is appropriate. For example, if a rural health care provider must pay $3000 for a broadband connection that an urban health care provider in the same network pays $300, getting rid of this rural-urban disparity is extremely significant because it makes it "economically reasonable" for the rural health care provider to connect, consistent with the intention of Section 254(h)(2)(A).

The designation in Paragraph 93 of the NPRM regarding "point-to-point" connectivity implies that only traditional circuits such as a T-1, that provided dedicated connectivity between two discrete locations, will be eligible. CTN believes that this restriction is problematic for a number of reasons:

1. Wide Area Networks have eschewed the older "hub and spoke" model, wherein regional dedicated networks are constructed of dedicated circuits that all converge upon a hub site, where routing or bridging services logically interconnect the participants. The newer technology employs Virtual Private Networks (VPN)

comprised of multiple interconnection locations and technologies that collectively form a "cloud". Having a "point-to-point" connectivity requirement is unduly restrictive and outdated in today's modern communications world.

2. Point-to-point circuits frequently do not represent the most cost-effective solution to providing interconnectivity among diverse participants. Shared trunking circuits wherein individual VPN's are logically separated, provide the requisite medical-grade security, while providing more efficient and less expensive access, since the capital/operational costs are shared among multiple participant groups. Virtually every major telecommunications provider today employs this technology; all major financial institutions and Fortune 500 companies employ it either substantially, or entirely.

Thus CTN recommends that the FCC expand the eligible circuit types to include Virtual Private Networks comprised of multiple individual connections, possibly provided by multiple carriers, and removes any "point to point" connectivity requirement.

Regarding Paragraph 95 to 96, CTN agrees that funding should not be limited to transmission over the public Internet given the need for secure transmission of health IT data, privacy issues, and more. CTN agrees that private dedicated networks are often more appropriate for health networks, and that both public and private networks should be allowed.

Regarding Paragraph 96, the FCC's proposal to specifically exclude non-rural sites as a blanket rule is unwise from two perspectives. First, the current definition of "rural" among federal programs is highly inconsistent. NTIA, RUS, FCC, DHHS, etc. employ different definitions and rural eligibility requirements. CTN recognizes that some of this diversity is the result of statutory requirements. Nonetheless, it would make more sense if the FCC could coordinate the rural eligibility requirements with other closely related federal programs (e.g., DHHS compatibility for rural health care programs) for consistency.

Second, one of the principal strengths of the RHCPP is that there has been some flexibility in the program for rural v. urban sites. The "de minimis" rule properly permits programs to include urban participants that may in all other respects, be eligible. Furthermore, numerous urban areas are characterized by very low "functional availability" of broadband due to socio economic circumstances, as well as extremely limited access to health care services. Specifically one of the areas with lowest per capita availability of health care professionals in the entire nation is located in central Los Angeles. Providing programs the flexibility to include such medically underserved urban areas would be completely consistent with FCC's goal to provide better access to health care services to underserved areas via broadband technology. CTN recommends that the "rural" eligibility requirement be expanded to include urban areas, consistent with the de minimis requirement established for the RHCPP.

Regarding Paragraph 97 regarding whether the FCC should define a minimum level of broadband capability for the health broadband services, CTN believes that a "benchmark" speed – as opposed to a mandated minimum speed -- of 4 Mbps downstream and 1 Mbps upstream would be an acceptable compromise for the near term of the next few years. On the one hand, a mandatory minimum may have potential negative effects if a lower speed service may be acceptable to a small health care provider who may have modest short term needs and a small budget. This is why a benchmark approach as opposed to a hard minimum is desirable. On the other hand, CTN believes that the FCC is right to aspire to higher speed levels (including up to 1,000 Mbps for a large medical center) depending on the type of health care provider that is being served (whether rural or urban). CTN believes that as telehealth, e-health and mobile health (m-health) applications roll out over the next decade, speed requirements are going to rise quickly. Therefore, CTN suggests that an alternate approach is to adopt rules where benchmark speeds may depend on the type of health care provider (speed tiers that increase as you move from a small health care provider, to a health care clinic, to a hospital or large medical center),

whether the area served by the health care provider is rural or medically underserved, and the desires of the health care provider (affordability may be a factor for the provider). Further CTN strongly suggests that the FCC delegate authority to the Bureau to relook at these benchmark speed levels every two years and to adjust them upwards as technology advances and bandwidth needs of these health care providers become greater.

In Paragraph 98 regarding Eligible Service Providers, CTN is concerned that the inexplicit description of "service provider" in this paragraph may not include consortia such as CTN that have been formed under the RHCPP. In anticipation of the NPRM, one of CTN's expectations was that an explicit mechanism for continuation of program support would evolve out of the RHCPP. We are disappointed that the NPRM does not clearly describe such a mechanism. If it is FCC's intention that no there be no linkage and that no transition mechanism be established, then it should be clearly and unequivocally stated. Otherwise and at a minimum, the FCC should clearly delineate the circumstances and requirements under which an RHCPP may transition into the Health Broadband Services Program and Health Infrastructure Program, as appropriate. We specifically recommend that the definition of "service provider" be expanded to include consortia that have been formed and that are currently supported under the RHCPP. Further, CTN supports the FCC's proposal in Paragraph 98 of the Notice that supported services may come from any type of broadband provider, and that cost effectiveness be required so long as quality of service minimums are met.

In Paragraph 100, CTN strongly supports the inclusion under the Health Broadband Services Program that participants may receive a one time support equal to 50% of reasonable and customer installation charges for broadband access. This is a sensible exception to the usual recurring costs policy.

In Paragraph 101, CTN concurs with the recommendation that eligible health care providers should be able to obtain support for the lease of dark or lit fiber to provide broadband

connectivity, even if such dark fiber is owned by a state, regional or local governmental entity, or a private network (such as one operated by a higher education or non profit entity). It is our experience that private carriers may have dark fiber that may be useful to a health care provider or the network, and it is wise to allow this fiber to be leased and supported by the program. Further the FCC should take into account the networks that will be built as a result of the NTIA''s BTOP and RUS' BIP programs. The programs put an emphasis on community wide public sector broadband networks. Restrictive rules by the FCC that may prevent health care providers from benefitting by leasing fiber from these ARRA-funded networks would not be sensible or advisable. On the contrary, the FCC should be reexamining its rules to strongly encourage collaboration and sharing of these upgraded broadband connections with health care providers whose connectivity is funded under FCC programs.

In Paragraph 103, regarding restrictions on satellite services, CTN believes that in some very remote areas, it is sensible for a provider to use satellite services, particularly where there are no terrestrial-based services or only very expensive terrestrial-based service. CTN believes in situations like this, the discounts should be provided at the normal discount rate with no cap. Further, satellite service plays an important role as a redundant system in case of disaster and emergency response[10]. Funding for such satellite service should be provided at some level (50% or more).

In Paragraphs 107 through 109 regarding the discount rate and affordability metrics, CTN supports the proposal to increase the level of support from 25% to 50%. The realities of service costs in many rural areas however, render even a generous 50% subsidy insufficient. Take for example, several rural areas in Central and far Northern California. Monthly Recurring Costs (MRC) for a T1 circuit, the minimum that UCDHS has found acceptable for quality telemedicine

[10] The failure of parts of the landline and wireless communications systems in New Orleans during the 2005 flood is instructive of why satellite back up is critical to a telehealth system.

use can vary from $3,000 per month to as much as $6,000 per month. A 50% subsidy – bringing the MRC to $1500 to $3000 -- still renders the circuit unaffordable by small rural health care providers. It is also often the case that providers are confronted with large non-recurring charges (e.g. installation) at the outset of services. Such stiff fees – even after 50% discounts -- can serve as an effective disincentive, regardless of the availability of subsequent MRC subsidies. CTN suggests a more flexible approach would be to meld the positive features of the Rural Health Division Program and the RHCPP. CTN suggests that the FCC retain the "rural – urban" differential metric that comes from Section 254(h)(1)(A) and additionally apply the 50% subsidy to that differential. Applying the 85% subsidy available under RHCPP to the rural – urban differential would ensure that an even larger contingent of very rural providers could afford medical-grade broadband services. Further, the FCC proposal in paragraph 100 to allow installation costs to be discounted by 50% will assist in easing that barrier to participation. Finally CTN supports the concept that participants should pay something towards their connectivity to have "skin in the game."

Regarding Paragraphs 110 regarding competitive bidding, CTN generally supports this proposal. As to Paragraph 111 and 112, CTN supports the proposal to allow program participants to enter into multiyear contracts for recurring broadband service, and to allow them not to have to rebid each year if they were competitively bid. CTN believes this will be very beneficial to obtaining better priced multiyear contracts with providers and will save on administrative costs. As to Paragraph 113, Pilot Program participants should be able to transition into the Health Broadband Service Program without further competitive bidding. This is very sensible given CTN did competitively bid our project for the RHCPP.

Regarding Paragraph 116 as to Administrative Offices, CTN commends the FCC for recognizing the essential nature of certain health care-related administrative functions and further recognition that their supporting administrative sites and services should be eligible for subsidy.

In the case of CTN, several larger Regional Telehealth Networks (RTN) whose growth necessitated establishment of a centralized, stand-alone administrative data center, altered their plans at no small inconvenience and cost, so that their data processing needs could be supported at their existing clinics that are eligible under the RHCPP. We agree that it is becoming a best practice for health care providers to locate their administrative facilities off site from the provider's primary facility. Establishing reasonable eligibility standards as proposed in the NPRM, is an appropriate and necessary accommodation in light of the ever-increasing role of networking and data processing in health care. With the advent of Health Information Exchange initiatives, the need for standardized and centralized data management facilities will undoubtedly grow. FCC's proposed accommodation is a forward-thinking recognition of this growing phenomenon. We do not believe that a requirement that the off site administrative office be 51% controlled by an eligible non profit or eligible health care provider be adopted. We think this is too restrictive, and suggest a more relaxed standard of 25%, with support provided on a *pro rata* basis if ineligible entities are also served by the administrative office.

Regarding Paragraph 120 regarding data centers, CTN supports the inclusion of off site data centers sued for health care purposes and owned directly or indirectly by an eligible health care provider. As noted in the NRPM, data centers perform very important functions such as housing patient records, serving as operations centers, and running IP networks for eligible health care providers. We think a more relaxed standard of 25% control by an eligible entity should be allowable, with a pro rata level of support.

Regarding Paragraph 123 through 127, CTN strongly supports the inclusion of non profit Skilled Nursing Facilities and non profit Renal Dialysis Centers and facilities in the program. This change properly recognizes changes in traditional delivery model of some services, and will be very beneficial.

CTN strongly supports the inclusion of rural Emergency Medical Services to the list of eligible service providers. The EMS providers play critically important role for patient care in rural areas and should be eligible. Specialty advice to rural EMS providers is a very important function in the most urgent of circumstances where significant value is recognized. On eligibility, we suggest that the FCC form a working group that will make periodic recommendations to the FCC on eligible entities as the health care world evolves.

VI. Annual Caps and Prioritization Rules

Regarding Paragraph 128 as to Annual Caps on the RHCSM, CTN does not object to annual caps but believes unused funds from one fiscal year should be allowed to be rolled over to the next year. CTN further believes that the initial cap for the proposed health care infrastructure program be set higher than the $100 million proposed in the NPRM. CTN believes that telehealth networks should be encouraged to build upgraded broadband infrastructure as soon as possible to aid in the advancement of telehealth delivery in the nation. Given the high priority of the telehealth as an application, there can be no higher priorities than telehealth and tele-education. These projects take years to plan and build and must be started as soon as possible. Given the historical underuse of the RHCSM, CTN believes that this is not the time for the FCC to hang back on commitment to telehealth infrastructure. Quite the opposite, the FCC should be aggressive in encouraging these e-health networks. CTN proposes a $200 million annual cap for the infrastructure program for the next five years, leaving $150 million for the telecommunications and internet health broadband service program. Given that historic spending was at $70 million a year, we think these caps are reasonable and place the priorities in the right order.

Regarding Paragraph 130, regarding prioritization, CTN suggests that should funding request exceed amount of available funds, prioritization should be based on:

1. Size of population to be served by the project;

2. Total number of rural health care providers in the proposed network;

3. Health Professional Shortage Area score for primary care;

4. Sustainability plan of applicant.

VII. Offset Rule

Regarding Paragraph 137, CTN supports the elimination of the offset rule as outdated and not technology neutral, consistent with the NPRM.

VII. Protection Against Waste, Fraud and Abuse

The CTN has no objection to the proposals in Paragraphs 139 and 140 of the Notice, and agree that this program should not tolerate waste, fraud or abuse.

IX. Data Gathering and Performance Measures

Subsection B – Meaningful Use Criteria

At Paragraph 143 regarding "meaningful use" criteria, the NPRM suggests that continuing eligibility for receipt of HBSP funding by providers may be contingent principally, possibly solely, upon demonstrated attainment of "meaningful use" which is currently being defined by the Department of Health and Human Services (HHS). Although a laudable goal, adoption of "meaningful use" as the sole or primary metric for continued eligibility appears inconsistent with one of the principal goals of the National Broadband Plan: to improve access to quality health care for underserved Americans. It is arguably the case that adoption of HIE and electronic medical records, and achieving "meaningful use" may lead to greater accuracies and efficiencies in health care delivery, leading to higher quality, cost-effective delivery. Such results however, will realistically only be achieved in the intermediate to longer term.

There are other more compelling, more direct, near-term benefits to be derived from broadband access, that merit equal if not greater cognizance. The California Telehealth Network extensively surveyed our prospective participant providers at an initial phase of the project. Many were situated in highly rural and underserved areas of the state. They were asked: "What

services would you like to obtain for your patients that are currently unavailable and if readily available, would have the most important impact on improving their care." The overwhelming response was: "access to specialty referral services." The ready availability of such services through telemedicine, will have an immediate, direct and poignantly personal impact upon the currently disenfranchised rural and underserved patient population. Any criteria designed to cost-justify further participation in the program, must take proper and primary note of constructive health care uses that directly improve patient's well-being.

We recommend that in addition to indirect measures such as incremental attainment of meaningful use, additional (and substantially weighted) criteria be developed that take proper note of broadband-mediated health care usage that directly benefits the individual patient. Such metrics should include measures of use of real-time telemedicine, store and forward Dermatology, and a broad array of additional patient-focused diagnostic and therapeutic activities.

We also note that "meaningful use" will not apply to all health care providers eligible for the rural health care program since a 10% Medicaid volume is required under "meaningful use". While "meaningful use" could be considered as a factor in prioritization, CTN objects to it being used as a gating or primary factor at this point in time.

C. Other Performance Measures

Regarding Paragraph 145, CTN agrees that performance measures should be adopted. CTN recommends that a working group of industry experts such as the American Telemedicine Association be formed to make recommendations on this issue. It is important to impose these performance measures once developed on a going forward basis, and to make them as administratively simple to implement and report as possible. Projects who do not meet performance measures should be advised of it and given a chance to meet the performance measures to retain their funding.

D. Data Gathering and Analysis

In Paragraphs 150 and 151, CTN supports the concept of periodic broadband status reports on health care and testing programs to fund innovative ideas for evaluating broadband efforts. We think a fund of $5 million a year for innovative ideas is appropriate. We also agree that it is very important that the Commission consistently study the connection speed issues for this program, to ensure that the speeds are adequate to bring quality health care to patients. We emphasize that the focus should be on maximizing quality health care to the patient and not on comparisons to speeds of commercial broadband services in the area. We also suggest that the FCC monitor what is going on in telehealth in other countries to ensure our policies remain competitive with other advanced nations in this area.

General Comments on the USAC Administrative Processes

The following comments discuss the current USAC administrative processes and data processing systems that support the RHCPP. They are presented here, since they do not pertain to any one particular section or paragraph of the NPRM. Nonetheless, as the principal administrative and operational entity for supporting the FCC broadband programs, USAC and its administrative processes would have an overarching influence upon literally everything proposed in the NPRM. These comments may be construed as negative, but we assure that nothing could be further from our intent. Throughout the implementation of the RHCPP-CTN initiative, we have been highly gratified by the sincere and extensive efforts that USAC staff and management have invested in assisting our project. We are convinced that they operate under significant regulatory and financial constraints. We are equally convinced however, that re-engineering of the processes and associated data processing modalities would tremendously improve efficiency, reducing administrative burden on participants, and provide for increased flexibility in what are currently broadly perceived by participants as intractable, arbitrary and burdensome administrative processes.

The data entry, data processing and operational process management systems employed by USAC to support the RHCPP are seriously out of date with industry-accepted management standards. Despite sincere and concerted efforts by USAC staff and first tier management to facilitate filings, the fundamentally flawed current system has stymied their efforts and frustrated participants. The current Sharepoint document management system was ill-designed to mimic a traditional paper based process based on Forms 465, 466 and 467. This system does not achieve efficiencies of a true electronic process. As a result, participants have to make redundant data submissions that waste time, money and energy. CTN is aware that many current RHCPP programs have at considerable expense developed their own data/process management systems to try and make up for the flawed USAC Sharepoint system. CTN urges the FCC to completely revamp the current data processing and operational process management systems before it brings on new FCC health care programs as proposed in the NPRM.

CTN suggests that the data processing tools as well as the operational work-flow management environments should be completely re-engineered. This should include:

1. Comprehensive, SQL-oriented "back end" database that serves as a unified repository for program demographic and financial data;
2. A work-flow management environment, closely coupled with the demographic/financial database.
3. A Web-based portal, tightly coupled with the comprehensive back-end database that supports field-level data entry by individual program participants, together with real-time data integrity checking. This one feature alone would tremendously reduce both USAC and participant overhead. One essential feature of the portal capability should be to completely divorce the user interface to the online data management process from the old Forms 465/466/467 format. The data management system should be free of this backwards looking paper form

paradigm. The portal should also support program report generation both for financial and status.

CTN believes that the establishment of such a capable, modern system will permit USAC to relax current arbitrary constraints that have been imposed not because of regulatory requirements but because of administrative burdens that may be imposed on USAC. As an example, the current Form 466A filing process requires that participants list each anticipated charge (both non-recurring and recurring) for the entire multiyear life of the program at the time of filing. As one can imagine, our health care provider sites are new to the concept of the California Telehealth Network and requiring the providers to try and forecast ahead as to every single charge it might need for five years up front is difficult, challenging, and frankly unnecessary. The funding allocations for our project are not allowed to be routinely adjusted as needs change over time for a particular provider in the normal course. A "service substitution process" is available to make subsequent changes but it is intended for very occasional use under exceptional circumstances. Modifications should be made more easily.

Another example is that CTN needed the ability to shift funds from one eligible line of a particular Form 466A filing to another eligible line item. While USAC is supportive of what we want to do, USAC can only alter protocols within certain limits and so our practical needs are not met. In summary, the constraints are purely administrative, originating not from sensible policy requirements but an outdated data management environment that does not serve the users.

CTN believes this lack of flexibility in the USAC database and work flow management systems result in significant delays in every facet of development. The FCC should allocate funding to revamp the USAC database management system and processes immediately and before it subjects new projects to this administrative nightmare.

Further CTN suggests that USAC be granted more flexibility by the FCC to be empowered to make more timely decisions without needing to escalate matters to senior

management for approval or going outside of USAC to the FCC for approval. Given strict deadlines, the decision making must be more swift and flexible to get projects up and running.

Conclusion

CTN thanks the FCC for the opportunity to make comments on its well thought out Notice.

Respectfully submitted,

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